

HS011151807B2

(12) United States Patent

Seaman et al.

(54) METHOD AND SYSTEM FOR TRAILER TRACKING AND INVENTORY MANAGEMENT

(71) Applicant: BlackBerry Limited, Waterloo (CA)

(72) Inventors: Conrad Delbert Seaman, Ottawa

(CA); **Stephen West**, Manotick (CA); **Derek John Kuhn**, Ottawa (CA)

(73) Assignee: **BlackBerry Limited**, Waterloo, CA

(US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 521 days.

(21) Appl. No.: 15/662,459

(22) Filed: Jul. 28, 2017

(65) Prior Publication Data

US 2019/0035172 A1 Jan. 31, 2019

(51) Int. Cl.

G07C 5/02 (2006.01)

G07C 5/08 (2006.01)

G01C 22/00 (2006.01)

G06Q 30/06 (2012.01)

G07C 5/00 (2006.01)

(56) References Cited

U.S. PATENT DOCUMENTS

4,743,913 A * 5/1988 Takai G01C 21/28 33/356

(10) Patent No.: US 11,151,807 B2

(45) **Date of Patent:** Oct. 19, 2021

4,807,127 A *	2/1989	Tenmoku G01C 21/30 340/988
5,416,712 A 5,646,857 A		Geier et al. McBurney et al.
6,057,779 A *		Bates G06Q 50/28
7,850,395 B1*	12/2010	340/10.51 Brenner G01B 21/30
8,682,622 B1*	3/2014	404/75 Brenner E01C 23/01
		703/2

(Continued)

FOREIGN PATENT DOCUMENTS

WO 2009052056 A1 4/2009

OTHER PUBLICATIONS

International Searching Authority, International Search Report and Written Opinion for International Application No. PCT/CA2018/050899, dated Oct. 12, 2018.

(Continued)

Primary Examiner — Alex C Dunn (74) Attorney, Agent, or Firm — Moffat & Co

(57) ABSTRACT

A method at a computing device for calculating a distance travelled, the method including receiving a plurality of discrete position fixes; determining a first distance travelled over the plurality of discrete position fixes by using a first calculation technique between successive discrete position fixes; determining a second distance travelled over the plurality of discrete position fixes by using a second calculation technique between successive discrete position fixes; applying a first weight to the first distance travelled and a second weight to the second distance travelled; and determining the distance travelled using a weighted average of the first distance travelled and the second distance travelled.

14 Claims, 9 Drawing Sheets

